Uncle Sam's Lady of the Fungi

IF YOU should want to know about fungi—and before that word scares you away let it be said that you and virtually everybody want to know about fungi—you probably would finally go, in person or by letter, to the subject of this article. She is the directing head in one of those mysterious offices buried in the great masses of brick and stone that house Uncle Sam's scientific workers in Washington.

There, if you should go to the office in question, you would find a silver-haired lady who looks at you over her spectacles and from dancing eyes that would paralyze you with shame, but not fear, in case you dared to think of the word "old" in association with her. She isn't afraid of, but, on the contrary, defiies dates.

Without adhering to the customary persiflage of chivalry, it can be truly said that Mrs. Flora W. Patterson is of the type that never grows old despite the passing years. But for historical accuracy as well as for the lessons that may be drawn from them certain dates must be set down, as for example:

The year 1847 during which she was born, that of 1865 when she graduated from college, that of 1869 when she married, that of 1890 when she returned to college, and that of 1896 when she joined the scientific corps attached to the United States Department of Agriculture.

Quite a period of time elapsed, as you will observe, between the middle and late sixties and the early and middle nineties and a fair period of time since the last.

What the writer is driving at may be illustrated thus: Three good "lessons" could be evolved from the facts in question. The first would come from the fact of a woman after being a successful wife and mother returning, as a student, to college, or rather to colleges and universities, for Mrs. Patterson attended several after her two sons were grown or nearly so. In truth, while she was completing her scientific studies at Harvard her youngest son was in the freshman class at the same institution. The second would have to do with the fact that for the succeeding quarter of a century she has been a big figure in Uncle Sam's organization of scientists, an organization in which women have not always been conspicuous. In length of service, she is the oldest woman doing scientific work for the government. The third might have to do with her work, a very important and difficult work which she took up and mastered at a time of life when most women are settling down irrevocably to the tedium of domesticity.

Mrs. Patterson was born in Ohio, the daughter of a clergyman, and received her first school education at Antioch and the Ohio Wesleyan, from which latter she received the A. M. degree shortly after the close of the Civil War. Marrying a few years later, she devoted about twenty years to the duties of a wife and mother. Then when she lost her husband, through death, and her two boys were ready for college, she looked around for something to do. She decided to return to school herself. So she enrolled as a student in the Iowa State Agricultural College, where she specialized in science, and gained another A. M. degree. Then she went to Harvard and took a post-graduate course in botany at what is now Radcliffe College and was then known as the Harvard Annex. After that she did work in plant pathology and mycology at the Gray Herbarium for a year.

"Why not get a place with the government?" she was asked one day.

"Oh, they wouldn't employ a woman for scientific work," she replied. However, she filed a formal application and was astonished when, within a short time, she was directed to take a scientific examination. She passed with creditable rating and was immediately offered a job in the Department of Agriculture.

It was found important long ago that we learn all that we possibly can about fungi, for it can be helpful as well as harmful to human life. There are probably more than 25,000 species, ranging from microscopic organisms, like yeast and mould, to big umbrella-like plants as in the case of the large mushrooms. Some can be eaten with benefit by men and other animals, others are highly dangerous when eaten. Many cause serious diseases in the plant world and a few cause diseases among animals, inclusive of human beings.

To keep the scientific trails into the fungi world open and clear, it is important that specimens of that form of life be gathered, studied, described and be kept where they always would be easily available.

The Agricultural Department had begun to develop a fungi herbarium when Mrs. Patterson came into it. Her work in bringing order out of the mushroom situation led to her being placed in charge of the fungi herbarium.

It is one of the biggest in the world. It now contains more than 95,000 specimens of fungi life and thousands of others are being added annually. In addition a catalog describing each of them and their hosts—for fungi usually are parasitic, making it important to know on what other forms of life they live—together with all developed information on the subject, is preserved in orderly form.

So when authoritative information is wanted on some fungi problem—be it the edibility of a mushroom or toadstool or the habitat and habits of some microscopic organism that is found to be playing havoc with rose vines or fruit trees—the search nearly always leads to the herbarium Mrs. Patterson has evolved and still directs.

If you don't believe there is much interest in fungi, drop in there some time and note the queries that go to Mrs. Patterson and her associates. In spring and summer, Mondays usually are very busy days with them, for then people in the vicinity of Washington stroll in requesting that samples of mushrooms collected in the open on outings the day before be passed upon. Other inquiries from all parts of the country go to Mrs. Patterson's office.

"If you are not an authority on mushrooms, it is best to let them alone until you do become an authority—that is to say, don't eat them unless you know what you are about or get them at eating places where they take care to serve only the right ones," Mrs. Patterson declared to the writer.

"Many of those that are edible look very much like others that are poisonous. There is one class that is both edible and poisonous but the varieties are so nearly alike that only a microscopic examination can tell which is safe and which is not."

While Mrs. Patterson, through her studies and the bulletins she has helped prepare, assisted considerably in developing the growing and eating of edible mush-

MRS. FLORA W. PATTERSON,

Who after raising two sons went back to college—for a time being a college mate of her youngest child—equipped herself in botany and mycology and became one of the Government's important scientific workers.

rooms in this country, she does not recommend any of the fungi plants for high or solid food values.

"The edible mushroom has about the same calorie worth as cabbage and about one-half that of the potato," she says. "But, of course, their flavoring makes them worth while. Be very careful in choosing those you eat and, if you cultivate them, in those you grow."

One species commonly prevalent in this country has very virulent intoxicating qualities. The same mushroom is used in Russia for distilling a potent beverage, and a recent writer says that it is eaten dry, for its intoxicating effect, by some members of some of the tribes in Siberia.

Mrs. Patterson believes that the field of scientific research offers splendid opportunity to women in search for careers.

"Women's inquisitive instincts, their devotion to system, their patience and their interests in all problems that affect human life, may give many of my sex a special penchant for several kinds of scientific work," she said. "When I took up this kind of study, a woman was rarely encouraged to enter the scientific field. The work of Madame Curie and that of many other women show what women can do in the scientific world.

Mrs. Patterson shows her belief in the woman scientific worker by the make-up of her own organization. Her first assistant is Miss Vera K. Charles, a mycologist of distinction and on her staff are several other women who are authorities in that line of research. Men are not excluded, for her corps includes several who rank high. One of her force does a particularly unique work. She, Miss Edith Cash, a young woman not long out of school, is able to read and translate fungi data when found in as many as six languages.

If you don't believe that the job of keeping tab on the fungi world for the National Government and very largely for the United States is quite a job, note the following first sentence from a long article in the Britannica Encyclopedia:

> "Fungi—(pl. for Lat. Fungus, a mushroom). The botanical name covering in a broad sense all the lower cellular cryptograms devoid of chlorophyll, which arise from spores, and the thallus of which is either unicellular or composed of branched or unbranched tubes or cell-filment, (hyphol) with apical growth of more or less complex wefted sheets or tissue-like masses of such (mycelium).

Yet Mrs. Patterson, with a corps of mostly women assistants, takes care of the job in apple-pie order.

How Watching "Everything" Won Fame and Fortune

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That finished Wood's work for 1920. Last winter he went to Miami, Florida, where the express cruiser championship was to be decided. He entered his boat Gar Jr. He won the race. Then he went out and won two ocean races. Having accomplished this he busied himself with another scheme and decided that his boat could travel from Miami to New York in less time than it took an express train. He won, covering the 1,300 miles in 47 hours and 25 minutes. This beat the fastest train time by 21 minutes. Wood continued and set another record, covering the distance between Miami and Detroit, via Hudson River, New York barge canal and Lake Erie, a distance of 2,200 miles, in 84 hours.

Late this summer Europe will try to take the Harmsworth Cup back to the other side of the Atlantic. Europe has been busy for six months building new speed boats, according to new designs. These boats are planned to beat anything that Wood has brought out or anything that he might be able to bring out with the assistance of Chris Smith, the boat builder. In the meantime Wood has been busy himself. A man who spent as much time and thought and energy to win a thing like a world's championship is not liable to let it slip because of lack of effort.

Wood has been successful where other men failed. Several wealthy men in this country have tried their hand at motor boat racing, purchased fast boats or had them built and employed skilled mechanicians to run the boats.

That is where Wood differs from them. Wood himself supervises the construction of his boats and helps build them. He drives his boats himself or where he has two boats in a race, the other one is piloted by an assistant.

Wearing an oilcloth "union" suit, with life preservers strapped about his waist, Wood holds the pilot's seat and this is a neat trick, for a boat that goes 50 miles an hour or faster behaves with less grace than a bucking broncho. The high-powered craft, attaining high speed, leaps out of the water and skips over the surface. If you have ever watched boys "sailing" flat stones over the water, you can have gained an idea of how a motor boat behaves when it happens to be a boat with enough speed to compete for the Gold Cup. Few men care to drive one.

Wood learned all about engines, all about racing that it is possible to learn and then learned all he could about boats. Using this knowledge, his money, time and patience, he developed the speed boats that have brought the highest honors to the United States and he guided them to victory.

As remarked in a previous paragraph, Wood is today a wealthy man. He operates three factories in Detroit, one in Windsor, Ontario, and has an assembling plant in Paris. He has sold more than 60,000 hoists which enabled him to pursue a hobby to an end marked with the ultimate success he could achieve.

Wood is a man who is tall and slender. His hair is gray and he is usually smiling. He is modest but can deliver what the members of any chamber of commerce would describe as a good talk and he has a keen sense of humor. Also, he is most inquisitive. If he did not happen to be inquisitive he would not have stopped on the street in St. Paul one day in 1912 and watched three laborers try to unload a truck. If he had not stopped he would not have conceived a big idea, that of making a hydraulic hoist, and if he had not conceived the big idea he would not have had the money to develop speed in power boats and had he not developed that, England would still be holding the Harmsworth trophy and the international speed boat championship and would not have to come to the United States this autumn to try to win it back.

Odd Animals from Africa

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had its foundation in the devotion of the hornbills for one another and their nest-home—the native hoping his home will be as well cared for and as happy. Hornbill beaks are also fastened to the waists of young children as a cure for malnutrition, for mothers know that young hornbills are well fed, and hope that the charm will fatten their little ones.

From the African rivers come the lung fish, yellow in color, eight or ten inches in length, and looking not a great deal unlike the eels that are found in less tropical lands.

The lung fish has true lungs instead of the usual gills, and so can live without water. In the rainy season they live in the shallow rivers, frequently coming to the surface to breathe, and the natives spear them from rafts. During the dry season the river-bed shrinks to a small sluggish stream. As soon as the waters begin to go down the lung fish burrow into the mud, curl themselves up, and lie waiting for the first heavy rains. They get air through the holes in the mud, and these holes are a guide to the natives who dig them out as they want food.

Still another forest dweller is the dik-dik, or dwarf antelope, which is the smallest antelope known to science. The dik-dik is an exceedingly graceful little animal, about the same size as our cotton tailed rabbits, and has short, very sharp, spike-like horns. It is shy, and not easily taken by sportsmen or explorers, keeping well under cover in the jungle tangles. When it is alarmed it gives a shrill whistle as it races away, "dik-dik," and it is from this cry that it takes its name.